UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division, Western Region
4173 MacArthur Boulevard
Oakland 19, California

February 12, 1962

Dear Cooperator:

During the period January 16 - February 1, 1962, Herbert H. Blakeslee, Entomologist, Plant Pest Control Division, Phoenix, conducted a beet leafhopper survey in the desert areas of southern Utah, Nevada, southeastern California and central Arizona. His report follows:

BEET LEAFHOPPER CONDITIONS IN THE SOUTHERN DESERT AREAS OF SOUTHERN UTAH AND NEVADA, SOUTHEASTERN CALIFORNIA, AND CENTRAL ARIZONA - 1962

The beet leafhopper movement from the southern desert breeding areas to the cultivated districts of central and southern Arizona, western Utah and western Colorado, is expected to be light to moderate this season. The movement to southeastern California, southern Nevada and to northern, central and southern Utah is expected to be light.

It should be emphasized that this report concerns only the beet leafhopper populations present in the far southern desert breeding grounds and does not have reference to populations that may have overwintered in local breeding areas in northern and eastern Utah, in western Colorado and northern Nevada.

TIME OF MOVEMENT

It is to be understood that this statement is based on present conditions. Movement of the beet leafhopper into cultivated districts of central and southern Arizona and southeastern California is expected to start by late February or early March, movement into cultivated areas of southern Nevada and southern Utah is expected to start by late March or early April, and movement to central Utah and western Colorado is expected to start by late April. Weather conditions during the next two months will have a bearing on the amount of leafhopper population that moves from the desert areas to cultivated districts.

SOUTHERN DESERT BREEDING GROUND CONDITIONS

Beet leafhopper movement is expected to be light to moderate this year from most of the desert regions lying South of the 34 degree parallel and is expected to be light from those areas lying to the North of the 34 degree parallel.

Rains during December and January have promoted good annual weed host development in most of the winter breeding areas in Arizona except for the

far West where suitable plant growth for leafhopper buildup was rather spotted in distribution at the time of the January Survey. Storms during the latter half of January have undoubtedly germinated additional weed hosts since this survey was made. Conversely, drought prior to the December rains may have caused some reduction of the overwintering beet leafhopper population, before the annual weed hosts were germinated. Some chemical control of leafhoppers may be done this season by State and County agricultural departments in the Imperial Valley of southern California to reduce potential beet leafhopper migration from desert areas adjacent to crop lands.

Host plant distribution was found to be spotted at the time of the survey in portions of the winter breeding area, lying North of the 34 degree parallel.

The southern desert breeding grounds are considered to contain about 30,000 square miles of potential annual weed host area, of which an estimated 18,800 square miles showed widespread annual weed host development.

Host plants were found at 38% of the 10 mile sampling points during the survey in 1962, in comparison to 34% in 1961, 53% in 1960, 10% in 1959, 70% in 1958 and 14% in 1957.

The average number of leafhoppers found in areas where plants were present in the southern desert breeding grounds was 0.012 per square foot in 1962, in comparison to 0.02 in 1961, 0.014 in 1960, 0.05 in 1959 and 0.66 in 1958.

SUMMARY

It is estimated from data obtained during this survey that overwintering beet leafhopper populations in the southern desert breeding grounds total 6.1 billion in 1962 in comparison to 6.3 billion in 1961, 8.6 billion in 1960, 3.0 billion in 1959, 235 billion in 1958 and 5.3 billion in 1957.

Host plant distribution and beet leafhopper populations are heavier South of the 34 degree parallel than in 1961, while plant distribution and leafhopper populations are lighter North of the 34 degree parallel this season than in 1961.

SECOND BEET LEAFHOPPER SURVEY - DESERT AREAS OF SOUTHERN UTAH AND NEVADA, SOUTHEASTERN CALIFORNIA AND CENTRAL ARIZONA

The second beet leafhopper survey made March 1-12, 1962, indicates further buildup of leafhopper populations in the southern desert breeding areas, particularly that portion lying south of the 34th degree parallel.

Intermittent rainfall and cool temperatures since mid-January have favored germination and growth of additional weed host plants in Arizona and to some extent elsewhere in the areas surveyed.

Beet leafhopper movement from these desert areas is expected to be light to moderate to cultivated districts of central and southern Arizona, southeastern California, southern Utah and Nevada; light to central and northern Utah; moderate to eastern Utah and western Colorado, with possible heavy concentrations due to local topography.

It should be emphasized that this report concerns only the beet leafhopper populations present in the far southern desert breeding grounds and does not have reference to populations that may have overwintered in local breeding areas in northern and eastern Utah, in western Colorado, and western Nevada.

Prepared-
Western Region PPC
Oakland, California
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